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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/591,928	06/12/2000	Randy B. Osborne	042390.P7483	3692

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Blakely Sokoloff Taylor & Zafman LLP
12400 Wilshire Boulevard
Los Angeles, CA 90025-1026

EXAMINER

PATEL, NIMESH G

ART UNIT	PAPER NUMBER
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2189

DATE MAILED: 09/09/2003

5

Please find below and/or attached an Office communication concerning this application or proceeding.

PPS

Office Action Summary

Application No.

09/591,928

Applicant(s)

OSBORNE ET AL.

Examiner

Nimesh G Patel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) ____ is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☒ Claim(s) 7, 15, and 17 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 6/12/2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____. | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: On page 11, line 19, agent B asserts PMPT wire 259 when agent B does not have control of the PMPT wire.

Appropriate correction is required.

Claim Objections

2. Claim 7 is objected to because of the following informalities: The specification discloses that the second agent retains access if the second agent is a critical access and the timer has not expired. However, claim 7 says the second agent retains access if the second agent is a critical access and the timer has expired. Appropriate correction is required.

3. Claim 15 is objected to because of the following informalities: The specification discloses that ICH retains access if the ICH is a critical access and the timer has not expired. However, claim 15 says ICH retains access if the ICH is a critical access and the timer not expired. Also, claim 15 refers to a second agent when a second agent is not mentioned in claims 10 and 12. Appropriate correction is required.

4. Claim 17 is objected to because of the following informalities: Claim 17 is dependent on itself. Appropriate correction is required.

5. For the purposes of analyzing the prior art, examiner will assume that in claims 7 and 15, applicant is referring to a situation where the timer has not expired. Also, for claim 15, examiner is assuming the second agent refers to the

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ICH. Regarding claim 17, examiner will assume that claim 17 is dependent on claim 16.

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 3-9, and 16-25 are rejected under 35 U.S.C. 102(b) as being anticipated by Christiansen et al, patent number 5,787,264, hereinafter referred to as Christiansen.

7. Regarding claim 1, Christiansen discloses an agent(Figure 2, Component 31) coupled to a second agent(Component 23) via a point to point half duplex interface, wherein a signal(Signal 32) indicates what type of access the first agent is requesting.

8. Regarding claims 3-4, Christiansen discloses that the signal(Figure 2, Component 32) indicates the access to the interface is a critical request or best effort(Column 8, Lines 37-43). A request is critical if the signal is asserted. A request is best effort if the signal is not asserted. Thus, claims 3-4 are rejected.

9. Regarding claim 5, Christiansen discloses the use of a component of the interface(Figure 2, Component 32 and Column 6, Lines 22-32) that has an equivalence to the preempt wire claimed by the applicant. If the signal in Christiansen's invention is asserted, the component asserting the signal takes over or preempts control of the bus over the current component using the bus. Thus, claim 5 is rejected.

10. Regarding claims 6-7, Christiansen discloses a component preempting access of the interface by a second component if the second component's access is best effort (Column 6, Lines 22-32). According to Christiansen's invention, there is only one real time component and it has an ARBcritical signal (Figure 2, Component 32). All the requests of the real time component are considered critical and all the other components' requests are considered best effort. Therefore, the real time component's request, which is critical, preempts access of the interface by the second component, which is a best effort access. Christiansen also discloses that more than one real time component can be used and any arbitration scheme can be used to determine who gets access of the interface when they both have requests. Christiansen discloses the use of a timer to limit the amount of time a component has control of the bus (Column 5, Lines 52-54). So in a situation of there being two real time components and the second component has control of the bus, and the first component has a request that is critical and a timer associated with the second component has expired, the first component preempts control of the bus by the second component. However, if the timer has not expired, the second component retains access. Thus claims 6-7 are rejected.

11. Regarding claim 8, Christiansen discloses a wire that is a single half duplex wire (Figure 2, Component 32), shared between 2 agents. Since this wire is used by a component to preempt access over another component, its function is equivalent to the claimed preempt wire. Thus, claim 8 is rejected.

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12. Regarding claim 9, Christiansen discloses the use of a signal(Figure 2, Component 32) to indicate a critical request. If a component has a best effort request, then the signal is not asserted. The component can simply change or upgrade the request to a critical request by asserting the signal. Therefore Christiansen's signal is equivalent to the signal claimed by the applicant.

13. Regarding claim 16, Christiansen discloses a method for an agent to request a critical access on a bus(Column 6, Lines 28-29) and determining whether another agent has control of the interface(Column 5, Lines 23-26). This is achieved by sampling the grant signals. Christiansen further discloses a component asserting a preempt component and waiting for control of the interface(Column 6, Lines 30-33). According to Christianson's invention, one component is connected to another component through a bus, and therefore being able to communicate to each other. This circuitry is equivalent to the point-to-point circuit in the claimed invention since one agent also communicates with the other agent via a bus. Thus, claim 16 is rejected.

14. Regarding claim 17, Christiansen discloses a method for giving control of the bus to a component if no other component has control of the bus(Column 5, Lines 45-47).

15. Regarding claim 18-19, Christiansen discloses the sampling of a critical access request signal from a component and if the current access is not critical, control of the bus is given to the critical access requesting component(Column 6, Lines 34-37).

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16. Regarding claims 20-21, Christiansen uses an arbitration scheme that allows a component to only have a limited period of time to control the bus and has to give up the control of the bus to another component if this time expires(Column 5, Lines 57-63). This is equivalent to the use of a timer as claimed by the applicant and thus, claims 20-21 are rejected.

17. Regarding claim 22, Christiansen teaches a situation where a second agent has control of the bus and afterwards, the first agent asserts the preemptive component of the interface. Since, the first agent can assert the preemptive component any time after the second agent is given control of the bus(Column 8, Lines 1-8), the preemptive component can be asserted one clock cycle after control of the bus had been given to another component. Thus, claim 22 is rejected.

18. Regarding claims 23-24, Christiansen's method has the preempt signal being asserted for the duration the agent waits to be granted control of the bus(Column 6, Lines 31-35).

19. Regarding claim 25, Christiansen teaches an agent with a preemptive component that is not asserted when there is a best effort. However, when there is a critical operation, the preemptive component is asserted.(Column 8, Lines 37-43). When this is done, control of the bus is given to the agent and thereby having a request upgraded from best effort to a critical request. Thus, claim 25 is rejected.

Claim Rejections - 35 USC § 103

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or

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declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). For applications filed on or after November 29, 1999, this rejection might also be overcome by showing that the subject matter of the reference and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. See MPEP § 706.02(I)(1) and § 706.02(I)(2).

20. Claims 2, and 10-15 are rejected under 35 U.S.C. 103(a) as being obvious over Ajanovic et al.(6,145,039) in view of Christiansen.

21. Regarding claim 2, Ajanovic discloses circuitry that has a first agent coupled to a half-duplex point-to-point interface that is coupled to a second agent(Figure 2). Ajanovic does not disclose the use of a signal to indicate what type of access the MCH or ICH is requesting. However, Christiansen discloses the use of a signal that indicates what type of access a component is requesting(Column 6, Lines 28-29). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Ajanovic with that of Christiansen to add an extra signal to indicate what type of request either agent is requesting because it would enhance the overall operating efficiency since time critical actions can be completed before actions that are not as important

22. Regarding claims 10-11, Ajanovic discloses circuitry that has a memory control hub coupled to a half-duplex point-to-point interface that is coupled to an

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input/output control hub(Figure 2). Ajanovic does not disclose the use of a signal to indicate what type of access the MCH or ICH is requesting. However, Christiansen discloses the use of a signal that indicates what type of access a component is requesting(Column 6, Lines 28-29). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Ajanovic with that of Christiansen to add an extra signal to indicate what type of request either agent is requesting because it would enhance the overall operating efficiency since time critical actions can be completed before actions that are not as important.

23. Regarding claims 12-13, Christiansen discloses the use of a signal that indicates if a request is critical or best effort(Column 8, Lines 37-43). A request is critical if the signal is asserted. A request is best effort if the signal is not asserted.

24. Regarding claims 14-15, Christiansen discloses a component preempting access of the interface by a second component if the second component's access is best effort(Column 6, Lines 22-32). According to Christiansen's invention, there is only one real time component, the first component, and it has an ARBcrit signal. All the requests of the real time component are considered critical and all the other components' requests are considered best effort. Therefore, the real time component's request, which is critical, preempts access of the interface by the second component, which is a best effort access. Christiansen also discloses that more than one real time component can be used and any arbitration scheme can be used to determine who gets access of the

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interface when they both have requests. Christiansen discloses the use of a timer to limit the amount of time a component has control of the bus(Column 5, Lines 52-54). So in a situation of there being two real time components and the second component has control of the bus, and the first component has a request that is critical and a timer associated with the second component has expired, the first component preempts control of the bus by the second component. The second component retains access of the interface if its access is critical and the timer has not expired. Therefore Christiansen's invention can be applied to applicant's claimed invention where the MCH is the first component and the ICH as the second component.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Patent number 6,151,651 given to Hewitt et al. discloses a circuit in which a first bridge circuit is connected to a second bridge circuit via an interconnection bus. The interconnection bus provides a first transfer mode for asynchronous data and a second transfer mode for isochronous data.

Patent number 6,151,651 given to Meyer et al. discloses a method of communication between requester and target devices in a computer system having multiple bus architectures.

Patent number 6,016,528 given to Jaramillo et al. discloses a priority arbitration system for interfacing a plurality of PCI agents coupled to a PCI bus

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such that high priority PCI agents are satisfied without starving low priority PCI agents.

Patent number 5,872,936 given to Eckstein discloses an apparatus and method for arbitrating bus conflicts. The system can use information about the status of a data stream to switch between more or less restrictive prioritization schemes.

Patent number 6,105,094 given to Lindeman discloses an apparatus for allocating exclusive shared resource requests. The apparatus is capable of granting a second type device exclusive access to the shared resource by preventing a first type device from being granted exclusive access to the shared resource.

Patent number 6,393,505 given to Scalise et al. discloses a data bus arbitration system that has a bus status monitor signal. The bus is arbitrated between multiple requests using heuristics dependent on classes of requesters. The first class of requesters have real time requirements whereas a second class of requesters have a semi-real time requirements.

25. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nimesh G Patel whose telephone number is 703-305-7583. The examiner can normally be reached on M-F, 8:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark H Rinehart can be reached on 703-305-4815. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-2100.

NP

A handwritten signature in black ink, appearing to read 'MRH', with a large, sweeping loop at the end.

MARK H. RINEHART
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100